

Figure 1 Kinetic constants of deoxynucleoside kinases

		dThd	dCyd	dAdo	dGuo	ATP
Dm-dNK	k_c (1/s)	15	15	17,8	18,9	15
	K_m (μ M)	0,9	1	109	650	1
	k_c/K_m $M^{-1}s^{-1}$	$1,7 \times 10^7$	$1,5 \times 10^7$	$1,6 \times 10^5$	$2,9 \times 10^4$	$1,5 \times 10^7$
hTK1 (a)	k_c (1/s)	4,2				4,2
	K_m (μ M)	0,5				140
	k_c/K_m $M^{-1}s^{-1}$	$8,3 \times 10^6$				3×10^4
hTK2 (b)	k_c (1/s)	0,3	0,4			0,3
	K_m (μ M)	16	16			2
	k_c/K_m $M^{-1}s^{-1}$	$1,9 \times 10^4$	$2,5 \times 10^4$			$1,5 \times 10^5$
hdCK (c)	k_c (1/s)		0,073	0,31	0,4	0,073
	K_m (μ M)		1	120	150	10
	k_c/K_m $M^{-1}s^{-1}$		$7,3 \times 10^4$	$2,6 \times 10^3$	$2,7 \times 10^3$	$7,3 \times 10^3$
hdGK (d)	k_c (1/s)			$1,35 \times 10^{-3}$	$2,1 \times 10^{-3}$	
	K_m (μ M)			60	7,6	
	k_c/K_m $M^{-1}s^{-1}$			$2,3 \times 10^1$	$2,8 \times 10^2$	
E. Coli TK (e)	k_c (1/s)	1,6				1,6
	K_m (μ M)	9				500
	k_c/K_m $M^{-1}s^{-1}$	$1,8 \times 10^5$				$3,2 \times 10^3$
HSV TK (f)	k_c (1/s)	0,21				0,21
	K_m (μ M)	0,6				32
	k_c/K_m $M^{-1}s^{-1}$	$3,8 \times 10^5$				$6,6 \times 10^3$
Lactobac. dAK/dCK (g) or dGK	k_c (1/s)		0,91	0,05	0,7	0,91
	K_m (μ M)		4,5	8,4	7,8	1000
	k_c/K_m $M^{-1}s^{-1}$		2×10^5	6×10^3	$8,9 \times 10^4$	$9,1 \times 10^2$

Figure 2

d-CMP Production with Nucleoside Kinase

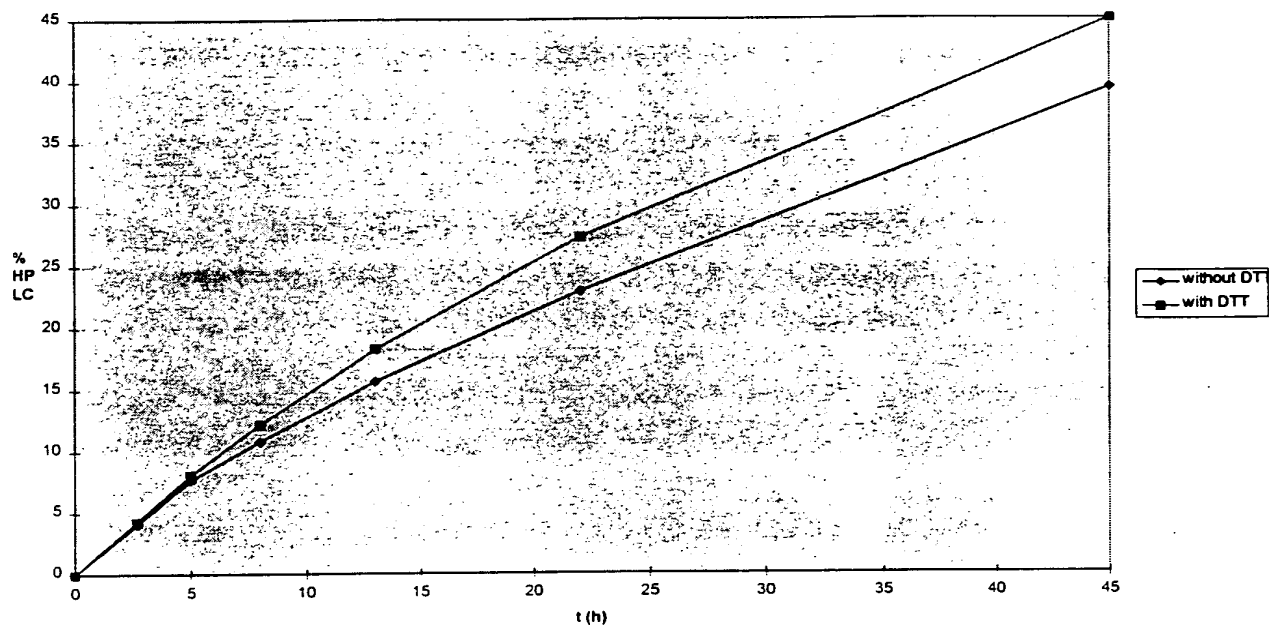


Figure 3

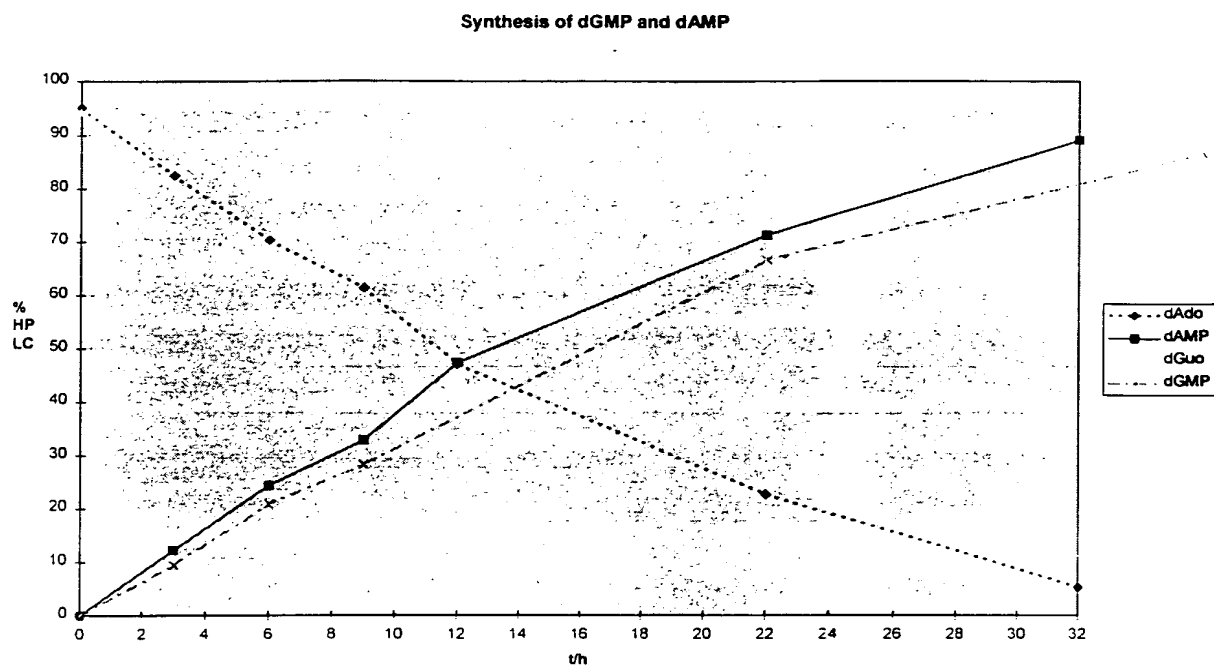


Figure 4

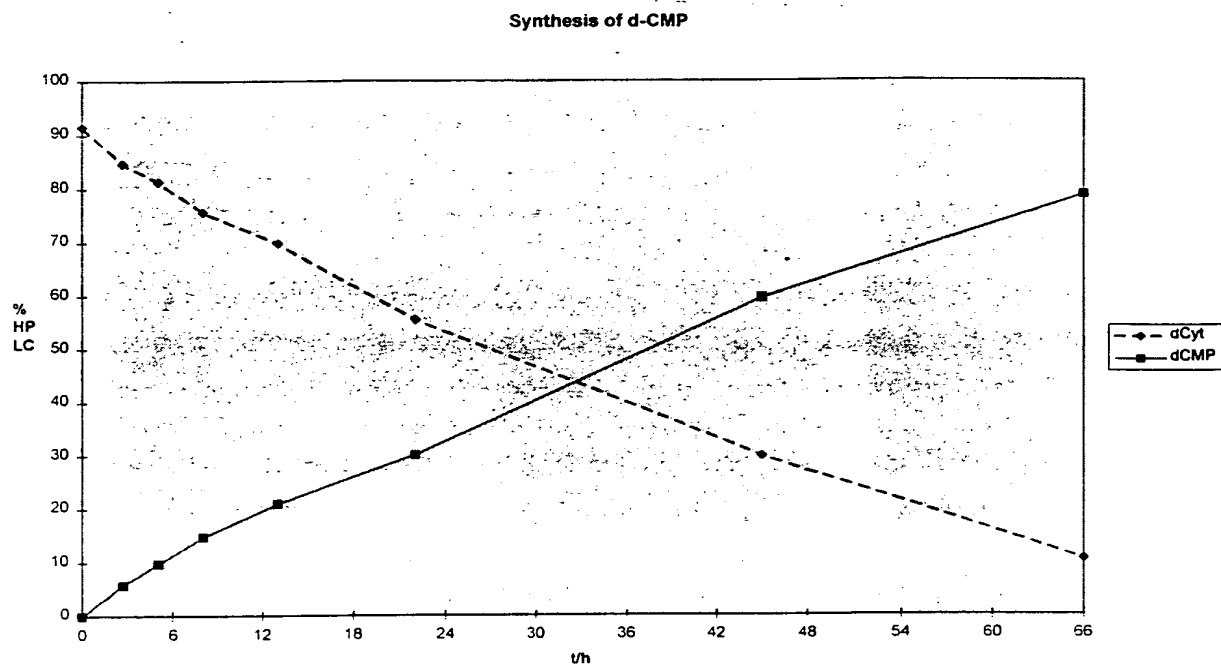


Figure 5

Seq. ID No.: 1

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AGC GGG
AAG ACC ACG TAT TTG AAC CAC TTC GAG AAG TAC AAG AAC GAC ATT
TGC CTG
CTG ACC GAG CCC GTC GAG AAG TGG CGC AAC GTC AAC GGG GTA AAT
CTG CTG
GAG CTG ATG TAC AAA GAT CCC AAG AAG TGG GCC ATG CCC TTT CAG
AGT TAT
GTC ACG CTG ACC ATG CTG CAG TCG CAC ACC GCC CCA ACC AAC AAG
AAG CTA
AAA ATA ARG GAG CGC TCC ATT TTT AGC GCT CGC TAT TGC TTC GTG
GAG AAC
ATG CGA CGA AAC GGC TCG CTG GAG CAG GGC ATG TAC AAT ACG CTG
GAG GAG
TGG TAC AAG TTC ATC GAA GAG TCC ATT CAC CTG CAG GCG GAC CTC
ATC ATA
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CAT GAG
TTG CAC CAG GAC TGG TTG ATA CAC CAG AGA CGA CCG CAG TCG TGC
AAG GTC
CTA GTC CTC GAT GCC GAT CTG AAC CTG GAA AAC ATT GGC ACC GAG
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Figure 6

Temperature dependence of the Dm-kinase activity

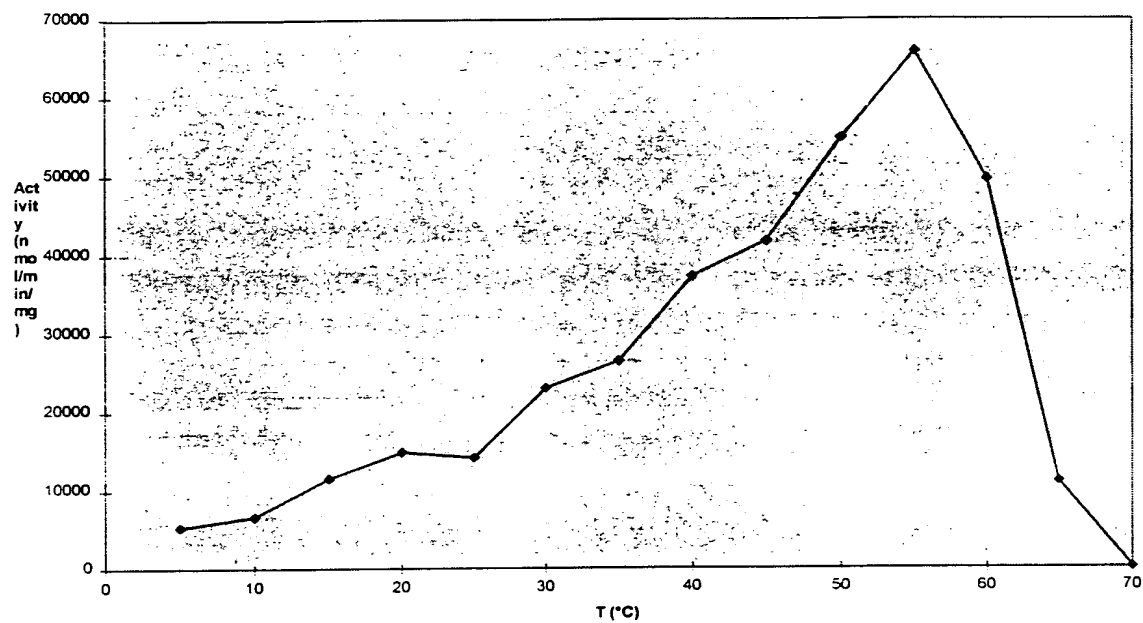


Figure 7A

Stability of recombinant DM-kinase compared to native DM-kinase

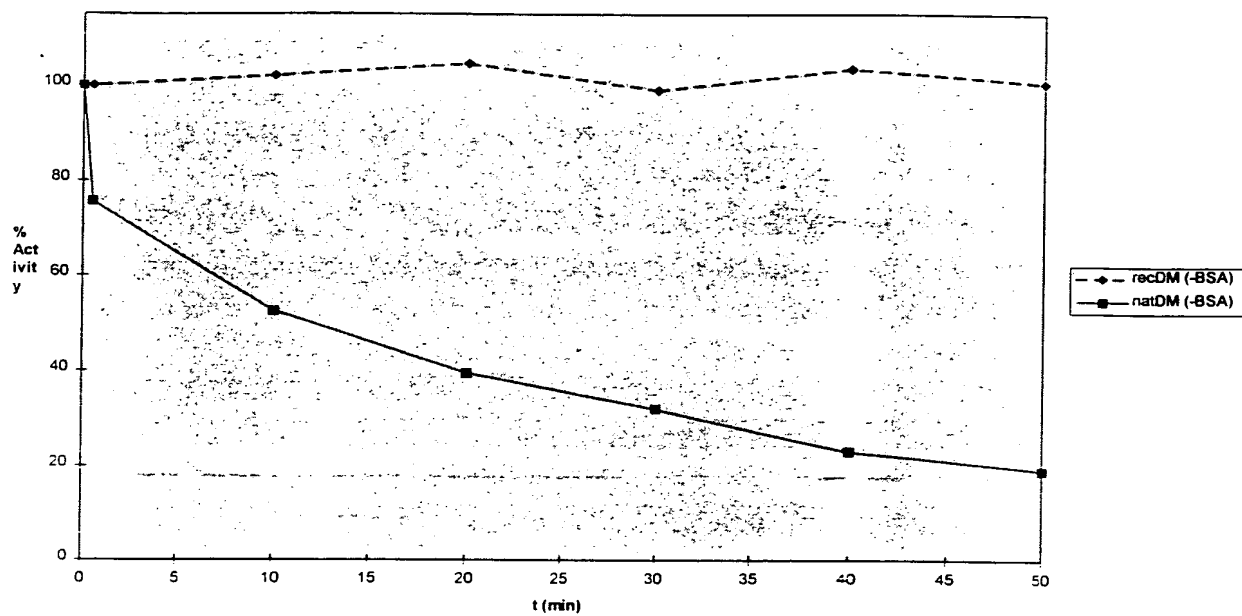


Figure 7B

Stability of recombinant DM-kinase compared to native DM-kinase

